

IN THE CLAIMS:

1-17 (Canceled)

18. (New) An apparatus for introducing and distributing solid fuel and a charge including a metal oxide, to a shaft furnace having a rectangular interior cross-section for the production of molten metal from said metal oxide, said apparatus comprising:

a fuel distributor for distributing solid fuel into said furnace;

a charge distributor disposed on opposite sides of said fuel distributor for distributing charge into the furnace;

said fuel distributor distributing solid fuel into said furnace in a central region thereof to form a longitudinal, central column of solid fuel in said furnace;

each said charge distributor including a respective tube journaled for movement in two planes perpendicular to one another, one longitudinally of the furnace, the other crosswise to the furnace, for distributing the charge on opposite sides of the solid fuel to form longitudinal columns of said charge on opposite sides of the central column of solid fuel thereby to maximize exchange of heat between ascending hot gas and said charge within said interior cross-section of said shaft furnace.

19. (New) The apparatus as claimed in Claim 18 wherein said fuel distributor includes a distributor tube.

20. (New) The apparatus as claimed in Claim 19 wherein said distributor tube in said fuel distributor is journaled for movement in one plane longitudinally of said furnace.

21. (New) The apparatus as claimed in Claim 18 wherein each said charge distributor extends downwardly in the furnace beyond the fuel distributor.

22. (New) The apparatus as claimed in Claim 18 comprising fuel and charge

hoppers for respectively supplying fuel to the fuel distributor and charge to the charge distributors.

23. (New) The apparatus as claimed in Claim 22 wherein each of said charge distributors is supplied by a respective said charge hopper.

24. (New) The apparatus as claimed in Claim 22 wherein both said charge distributors are supplied by a common said charge hopper.

25. (New) The apparatus as claimed in Claim 22 wherein one said charge hopper is connected to supply charge to said charge distributors on the opposite sides of said fuel distributor.

26. (New) The apparatus as claimed in Claim 20 wherein more than one said fuel distributor are disposed lengthwise along said furnace, and more than one said charge distributor are disposed on each side of the fuel distributors lengthwise of the furnace.

27. (New) The apparatus as claimed in Claim 26 comprising Y-shaped charge supplying members connecting the charge distributors on the opposite sides of the fuel distributors.

28. (New) A method for distributing solid fuel and a charge including a metal oxide in a shaft furnace having a rectangular interior cross-section, the charge being used for the production of molten metal from the metal oxide of the charge, said method comprising:

distributing solid fuel in a central region in said furnace to form a longitudinal central column of solid fuel in said furnace;

distributing charge on opposite sides of the solid fuel by moving distributing tubes for the charge in two planes perpendicular to one another, one lengthwise of the furnace, the other crosswise of the furnace, on opposite sides of the solid fuel to form longitudinal

columns of said charge on opposite sides of the central column of solid fuel thereby to maximize exchange of heat between ascending hot gas and said charge; and

continuing said distributing of said charge and said solid fuel to maintain said central column of solid fuel and charge column on opposite sides of said central column during said production of said molten metal.

29. (New) The method as claimed in Claim 28 comprising distributing the fuel in the central region by moving a fuel distributor tube in one plane longitudinally of the furnace.

30. (New) The method as claimed in Claim 28 wherein the distribution of the solid fuel in the central region is carried out so that the central column of the solid fuel has a narrower width than the column of longitudinal charge on both sides of the central column.

31. (New) The method as claimed in Claim 28 wherein the distribution of the solid fuel is initially carried out without distribution of charge to produce a layer of fuel all across the width of the furnace.